

**U.S. FISH AND WILDLIFE SERVICE
SPECIES ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM**

SCIENTIFIC NAME: *Erigeron lemmonii*

COMMON NAME: Lemmon fleabane

LEAD REGION: Region 2

INFORMATION CURRENT AS OF: April 2006

STATUS/ACTION:

☐ Species assessment - determined species did not meet the definition of endangered or threatened under the Act and, therefore, was not elevated to Candidate status

☐ New candidate

☒ Continuing candidate

☐ Non-petitioned

☒ Petitioned - Date petition received: May 11, 2004

☐ 90-day positive - FR date:

☐ 12-month warranted but precluded - FR date:

☐ Did the petition requesting a reclassification of a listed species?

FOR PETITIONED CANDIDATE SPECIES:

a. Is listing warranted (if yes, see summary of threats below)? Yes

b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? Yes

c. If the answer to a. and b. is "yes", provide an explanation of why the action is precluded.

We find that the immediate issuance of a proposed rule and timely promulgation of a final rule for this species has been, for the preceding 12 months, and continues to be, precluded by higher priority listing actions (including candidate species with lower LPNs). During the past 12 months, almost our entire national listing budget has been consumed by work on various listing actions to comply with court orders and court-approved settlement agreements, meeting statutory deadlines for petition findings or listing determinations, emergency listing evaluations and determinations, and essential litigation-related, administrative, and program management tasks. We will continue to monitor the status of this species as new information becomes available. This review will determine if a change in status is warranted, including the need to make prompt use of emergency listing procedures. For information on listing actions taken over the past 12 months, see the discussion of "Progress on Revising the Lists," in the current CNOR which can be viewed on our Internet website (<http://endangered.fws.gov/>).

☒ Listing priority change

Former LP: 5

New LP: 8

Date when the species first became a Candidate (as currently defined): 1993

___ Candidate removal: Former LP: ___

___ A – Taxon is more abundant or widespread than previously believed or not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

___ U – Taxon not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status due, in part or totally, to conservation efforts that remove or reduce the threats to the species.

___ F – Range is no longer a U.S. territory.

___ I – Insufficient information exists on biological vulnerability and threats to support listing.

___ M – Taxon mistakenly included in past notice of review.

___ N – Taxon does not meet the Act's definition of "species."

___ X – Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Plant, Asteraceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Arizona

CURRENT STATES/ COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE:
Cochise County, Arizona

LAND OWNERSHIP: All known locations of the plant are on the Fort Huachuca Military Reservation; may also occur on the Coronado National Forest.

LEAD REGION CONTACT: Susan Jacobsen, 505-248-6641

LEAD FIELD OFFICE CONTACT: Mima Falk, Arizona Ecological Services Field Office,
Tucson Sub-office, 520-670-6150 ext 225

BIOLOGICAL INFORMATION:

Taxonomy

Erigeron lemmonii was described in 1883 by Asa Gray. In 1947, Cronquist published a revision of the *Erigeron* species north of Mexico, and included *E. lemmonii* as a valid taxon. In 1989, Nesom described a new species of *Erigeron* from Arizona (*E. piscaticus*). Specimens that had originally been placed by Cronquist in *E. lemmonii* were reviewed by Nesom and determined to be morphologically different, resulting in the description of the new species. The result was that *E. lemmonii* remained a valid taxon, but limited in distribution to the Huachuca Mountains of southeast Arizona.

Species Description

Lemmon fleabane is a perennial species with a prostrate growth form. The stems are up to one meter in length and covered with dense, non-glandular hairs. The lower leaves on the stems are linear, 6-12 mm long, with teeth or shallow lobes. The upper leaves on the stems are entire. The flowering heads are usually single at the ends of numerous leafy branches. Mature flower heads

are 3-6 mm wide and 1-3 mm high. The phyllaries are in two equal rows; ray flowers white to light purple. The species produces flowers from August through October (Arizona Rare Plant Committee 2001). We don't know how it reproduces or how long-lived the plants are.

Habitat

This species occurs in crevices and ledges of west-, south-, and north-facing limestone cliffs and on faces of large boulders in canyon bottoms within the pine-oak woodland association at elevations from 6300 to 7300 feet (U.S. Fish and Wildlife Service 1992). Plants are rooted in rock crevices. We do not know if the plants are associated with a certain type or age of limestone.

Historic and Current Range and Status

The species is only known from one site, Scheelite Canyon, on the Fort Huachuca Military Reservation of southeastern Arizona (Warren et al. 1991). We do not know the number of acres of suitable habitat, but the plants are restricted to just a few rock faces in Scheelite Canyon. During spring of 1991, approximately 400 plants were counted in Scheelite Canyon (Warren et al. 1991). Mills Tandy (botanist working on Ft. Huachuca) counted approximately the same number in the late 1990s (S. Stone, pers. comm.). Since the plants occur on rock faces and many are not accessible from the ground, it is difficult to determine if clumps represent one plant or many, thus the estimate of clumps/ individuals should be taken as rough estimates of actual numbers. Based on this monitoring information, the population of *E. lemmonii* seemed stable during the 1990s. The population has not been inventoried since that time. The Arizona Game and Fish Department (1999) concurs that only one known site currently exists. Historical locations from Maricopa and Graham counties in Arizona are now attributed to *E. piscaticus* (Nesom 1989). There are collections from 1943 and 1962 of *E. lemmonii* from Pima County, Arizona (Santa Catalina Mountains, Coronado National Forest) that have not been verified as *E. lemmonii*. The type specimen was collected in Tanner's Canyon of the Huachuca Mountains. There is no canyon in the Huachuca Mountains with this name today, but personnel from Fort Huachuca state that Tanner Canyon refers to Garden Canyon, on Fort Huachuca. Scheelite Canyon is a tributary of Garden Canyon, and it is possible that the original collection was made from Scheelite Canyon (S. Stone, pers. comm.). Areas of suitable habitat have been surveyed in the Huachuca Mountains (Miller Peak, Carr Peak, Carr Canyon, Huachuca Peak, Garden Canyon, Ramsey Canyon, Bear Canyon, Scotia Canyon, and Huachuca Canyon). These are areas on the Coronado National Forest and Fort Huachuca. Surveys were also conducted in the Santa Rita Mountains, Coronado National Forest and Sonora, Mexico (Sierra Los Ajos and the Sierra San Luis) (Warren et al. 1991). It remains a sensitive species on the Coronado National Forest because there have been reports, but no collections, from Huachuca Peak in the Huachuca Mountains and Temporal Gulch in the Santa Rita Mountains. There are also the specimens from the Santa Catalina Mountains that need verification.

THREATS

A. The present or threatened destruction, modification, or curtailment of its habitat or range. Virtually any habitat change is a serious threat to the species because it only occurs as a single population. Due to its vertical cliff face habitat, many of the usual impacts (e.g., grazing and development) are unlikely. The threats to the species are from catastrophic wildfire in the

canyon where the plant occurs and on-going drought conditions. An intense wildfire in the narrow canyon would almost certainly desiccate plants on the cliff face, possibly directly killing individuals or stressing out plants that could lead to lower reproductive output. The canyon supports a heavy fuel load and the likelihood of ignition and spread is high (S. Stone, pers. comm.). The area is used by undocumented human traffic from Mexico, and fire rings have been documented in the area. In the last few years, several fires in the Huachucas have been associated with undocumented aliens. In addition, drought conditions have prevailed in Arizona for the last four years. The forests are stressed and this condition exacerbates the fire danger due to low moisture content, high levels of fuel, and dead trees due to insect infestation. Stressed trees are likely targets for insect infestation. Although there is no fire history for Scheelite canyon, there is a fire history study for Garden Canyon (Danzer et al. 1996). Fire history follows the general pattern established for southwestern ponderosa pine forests; there were frequent wildfires before the 1880s and much fewer after that. The last stand-replacing fire in the Huachucas was in 1983. We do not know if this species has any adaptations to wildfire. We suspect that fire that may have occurred at more regular intervals and burned at lower intensities with little to no effect on *E. lemmonii* due to its location on cliffs. It is only due to the lack of fire and the accumulated fuel load that the fire intensity and associated heat may be high enough to damage or kill plants on the adjacent cliffs, especially those plants that are near ground-level. There are plants much higher on the cliff face that would likely not be affected by fire. While we believe the threat of fire in the canyon is high, we cannot predict how the fire will affect the entire population. Fort Huachuca is developing a fire plan, in conjunction with adjacent land management agencies, but Scheelite Canyon is not targeted for thinning or prescribed burns due to the high cost of working in this narrow canyon (S. Stone, pers. comm.). There are no specific management or conservation actions for this species, except for periodic monitoring, in Fort Huachuca's INRMP. The Coronado National Forest's Plan has no specific conservation or management actions for this species, except the general standard and guidelines pertaining to sensitive species (survey and evaluate the effects of land management activities on the species). The Fort has removed the threat to the species and its habitat from recreational rappelling by not allowing it on the cliffs supporting *E. lemmonii*. The effects of long-term drought on this species are unknown.

B. Overutilization for commercial, recreational, scientific, or educational purposes. Not known to be a factor threatening the Lemmon fleabane.

C. Disease or predation. Not known to be a factor threatening the Lemmon fleabane.

D. The inadequacy of existing regulatory mechanisms. This species is protected (restrictions on collection) by the Arizona Native Plant Law, which prohibits collection without obtaining a permit, and plants may not be moved off of private property without contacting the Arizona Department of Agriculture. The Arizona Native Plant Law does not protect the habitat. The species is designated by the Forest Service as a sensitive species. The Coronado National Forest continues to evaluate projects and survey in areas of suitable habitat that may be affected by proposed land management actions.

E. Other natural or manmade factors affecting its continued existence. Because it occurs as a single population, this species is vulnerable to extinction by a natural or human-caused

catastrophic event (Menges 1991). The population may also be experiencing genetic consequences often associated with small, isolated populations. The ability of a species to persist over time is related, in part, to genetic variation in a population, which provides the basis of adaptation to changing environments. The greater the heterozygosity (number of different types of alleles) present, the higher the probability that at least some plants in a population will be able to adapt to changing circumstances (Huenneke 1991; Reed and Frankham 2003). As populations become depauperate (less variation) in their genetic make-up, the ability of the populations to adapt to changing environmental factors, such as changes in the local conditions, may decrease.

We do not have any information on the historical distribution of this species. It may have been more widespread in the Huachucas and surrounding mountains. This may be the only remaining population, and there may be legitimate concerns regarding its population genetics and its ability to persist into the future.

CONSERVATION MEASURES PLANNED OR IMPLEMENTED: No prelisting activities are underway at this time, but we have funded a section 6 project that will update the status of the species and develop a long-term monitoring plan. The work will be completed by the end of 2007. We plan on using the information from the project as the basis for a conservation agreement with Ft. Huachuca. Once the agreement is completed, we would remove this species from the candidate list

SUMMARY OF THREATS: The most serious threat for this species is its small, isolated population size, making it vulnerable to extirpation from a stochastic event.

For species that are being removed from candidate status:

___ Is the removal based in whole or in part on one or more individual conservation efforts that you determined met the standards in the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (PECE)?

LISTING PRIORITY

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10

		Species	11
		Subspecies/population	12

Rationale for listing priority number:

Magnitude: The species is represented by a single population in one canyon (Scheelite) in southeast Arizona on Fort Huachuca. Surveys have not located this species in any canyons with suitable habitat in the Huachuca Mountains, Santa Rita Mountains, and Sonora, Mexico. A single population is very vulnerable to extinction by natural stochastic events or human-caused events (e.g. rock fall, wildfire, and extended drought). The species occurs in an area where the risk of wildfire is considered high, but the threats to the overall population are considered relatively low. Plants near the ground may be affected, but not all of the population would be equally affected. Therefore, the magnitude of the threat is considered moderate.

Imminence: A population exists on Department of Defense (DOD) (Ft. Huachuca) lands. DOD has removed some threats (rappelling on cliff faces), but there is a high probability of wildfire in Scheelite Canyon. Past monitoring shows a stable population, but DOD needs to continue monitoring, especially through this on-going drought period to determine if the population is being affected by drier conditions. Because of the high risk of wildfire in Scheelite Canyon and the continuing drought, the threats to this species are considered on-going and imminent.

X Have you promptly reviewed all of the information received regarding the species for the purpose of determining whether emergency listing is needed? Yes.

Is Emergency Listing Warranted? No. Lemmon fleabane is protected by the Arizona Native Plant Law and is designated by the Forest Service as a sensitive species. Furthermore, it occurs on the Fort Huachuca Military Reservation, and they have taken measures to protect the plant from recreational rappelling.

DESCRIPTION OF MONITORING: Fort Huachuca conducts periodic sites visits and has verified that during the 1990s the population supported approximately the same number of individuals (400), indicating population stability.

COORDINATION WITH STATES

Indicate which State(s) (within the range of the species) provided information or comments on the species or latest species assessment: None

Indicate which State(s) did not provide any information or comments: The Arizona Department of Agriculture (the agency that manages plants in the state) reviewed this form and had no comments.

LITERATURE CITED

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APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes, including elevations or removals from candidate status and listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all resubmitted 12-month petition findings, additions or removal of species from candidate status, and listing priority changes.

Approve: /s/ Benjamin N. Tuggle 6/23/2006
Acting Regional Director, Fish and Wildlife Service Date



Concur: _____ August 23, 2006
Director, Fish and Wildlife Service Date

Do not concur: _____
Director, Fish and Wildlife Service Date

Date of annual review: April 2006
Conducted by: Mima Falk